REMARKS

In the Drawings

Applicant has discovered that Figure 2 shows two erroneous connections, showing the coupling of the gates of pull-up transistors 236 and 234 and coupling of the gates of pull-down transistors 244 and 246. Applicant contends that the errors are editorial in nature and would be clear to one skilled in the art upon studying the Specification, and that correction is therefore proper. Accordingly, Applicant is submitting a replacement drawing sheet along with a red-lined copy showing the corrections made.

Applicant contends that correction of Figure 2 as provided herein is clearly supported by the language of the Specification. As provided in paragraph 0020 of the Specification, "The gates of pull-up transistors (P0) 232 and (P1) 234 are driven by the signal pgate, generated by the pull-up pre-driver section, while the gate of pull-up transistor 236 (P2) is directly connected to the output pad 250." It is clear from this language that no connection exists between the gates of pull-up transistor 234 and pull-up transistor 236. As provided in paragraph 0021 of the Specification, "The gates of pull-down transistors 242 (N0) and 244 (N1) are driven by the signal ngate, generated by pull-down pre-driver section 220, while the gate of transistor 246 (N2) is directly connected to DQ pad 250." It is clear from this language that no connection exists between the gates of pull-down transistor 244 and pull-down transistor 246.

Furthermore, as provided in paragraphs 0024-0025, "Consider a high to low transition of the data signal. In this case, ngate and pgate signals switch from 0 to VCCQ. Therefore, transistors 232 (P0) and 234 (P1) of the pull-up section 230 are switched off and there is no current path between VCCQ and DQ 250. In the pull-down section, at the beginning of the transition, all 3 transistors 242 (N0), 244 (N1) and 246 (N2) are switched on, so the two branches made of transistor 242 (N0) and the cascode-connected transistors 244 (N1) and 246 (N2) both contribute to the load charging current. As soon as the output voltage decreases and becomes close to the switching threshold (Vtn) of the n-channel transistors, the current path through transistor 244 (N1) and 246 (N2) is progressively switched off and the output current decreases accordingly. When the DQ pad 250 voltage becomes lower than Vtn, transistor 246 (N2) is turned off and the output current is now due to the transistor 242 (N0) path only." Transistor 246 must therefore be independent of signal ngate. And as provided in paragraph 0026 of the

Specification, "A similar effect is obtained for a low to high to low transition of the data signal resulting from the symmetrical (or dual) cascode circuit introduced in the pull-up driver section 230." Therefore, transistor 236 must also be independent of signal pgate.

In view of the foregoing, Applicant requests entry of the replacement drawing sheet for corrected Figure 2.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 6, 7 and 26 were rejected under 35 U.S.C. § 102(b) as being anticipated by Bianchi (U.S. Patent No. 5,122,690). Claim 1 is canceled hereby without prejudice or disclaimer.

Claims 6 and 7

The Office Action acknowledged that claim 2 would be allowable if it were amended to include all of the limitations of claim 1. Applicant has amended claim 2 as suggested and therefore believes claim 2 to be allowable. Claims 6 and 7 have been amended to depend from claim 2. As claims 6 and 7 contain all patentable limitations of claim 2, these claims are also believed to be allowable. Applicant thus respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b), and allowance of claims 6 and 7.

Claim 26

Claim 26 recites, in part, "reducing drive in a pull-up driver as a level of a signal on an output of the output buffer approaches a high logic level" and "reducing drive in a pull-down driver as a level of the signal on the output of the output buffer approaches a low logic level." However, Bianchi purports to have both pull-up transistors PS and PL conductive when its output is a high logic level and to have both pull-down transistors NL and NL conductive with its output is a low logic level. *See, e.g.,* Bianchi, column 4, lines 47-53 ("Thus, the signal applied to the gates of transistors PL and PS and that applied to the gates of transistors NL and NS will be a potential close to that of Vdd when the potential at the output 52 is close to that of supply rail Vss. In the opposite condition, the potentials at the gates are reversed from those of the preceding sentence."). Applicant thus contends that the output buffer of Bianchi is in a state of maximum drive when its output approaches either logic level, which is in direct contradiction to

Applicant's limitation that drive for a logic level be reduced as the output approaches that logic level. Accordingly, Applicant contends that claim 26 is patentably distinct from the cited reference. Applicant thus respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b), and allowance of claim 26.

Claim 18

Claim 18 was rejected under 35 U.S.C. § 102(b) as being anticipated by Ogawa et al. (U.S. Patent No. 5,804,987). Claim 18 is canceled hereby without prejudice or disclaimer.

Claim Rejections Under 35 U.S.C. § 103

Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bianchi.

Applicant has amended claim 7 to depend from claim 2, which was indicated to be allowable over the cited references. Applicant thus contends that claim 7, as amended, is patentably distinct from Bianchi. The taking of official notice regarding the use of masked options does not overcome the deficiencies of Bianchi with regard to claim 7. As claim 8 depends from and further defines patentably distinct claim 7, this claim is also believed to be allowable over Bianchi and the official notice, either alone or in combination. Applicant thus respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a), and allowance of claim 8.

Allowable Subject Matter

Claims 2-5 and 27 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. Applicant has amended claim 2 as suggested by the Examiner. As claim 3-5 depend from and further define claim 2, these claims are also believed to be in condition for allowance. Applicant thus respectfully requests reconsideration and withdrawal of the objection, and allowance of claims 2-5.

Applicant contends that it has shown claim 26 to be patentably distinct from the cited reference. As claim 27 depends from and further defines patentably distinct claim 26, this claim

is also believed to be allowable. Applicant thus respectfully requests reconsideration and withdrawal of the objection, and allowance of claim 27.

Applicant acknowledges that claims 9-17, 19-25 and 28-39 were indicated to be allowed.

CONCLUSION

Claims 1 and 18 are canceled hereby without prejudice or disclaimer. Claims 2, 6 and 7 are amended herein. Claims 2-17 and 19-39 are now pending. In view of the above amendments and remarks, Applicant believes that all pending claims are in condition for allowance and respectfully requests a Notice of Allowance be issued in this case. If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 312-2204.

Respectfully submitted,

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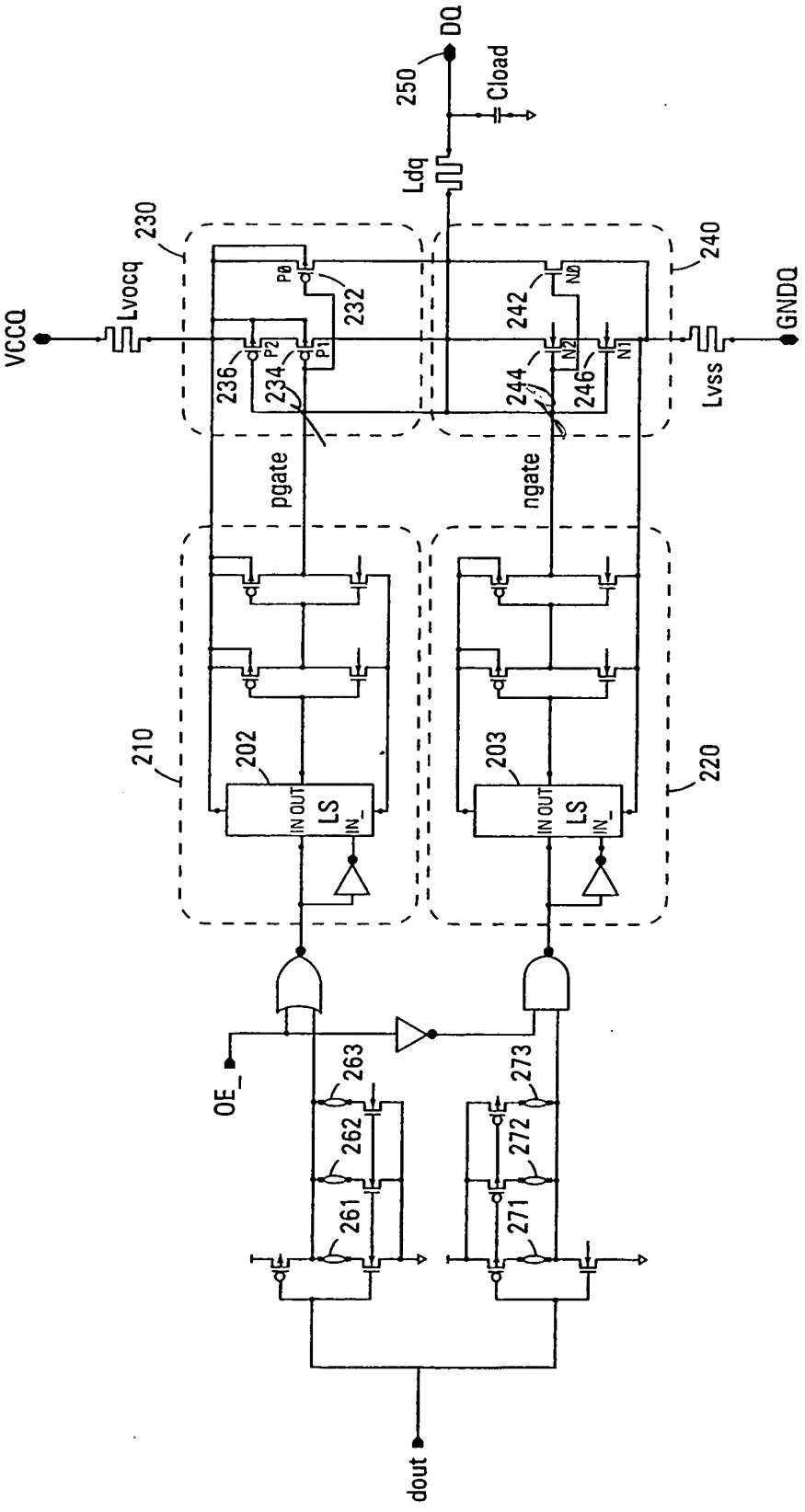
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Cload
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240
VCCQ
Lvccq
GNDQ
Lvss
P0
P2
P1
N0
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N1
232
236
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IN OUT
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Fig. 2